AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A process for cleaning a deposition chamber having multiple substrate stations contained therein, comprising:

a first cleaning step that includes maintaining a deposition chamber having multiple substrate stations at a first pressure while passing a fluorocarbon gas into said deposition chamber, said first cleaning step conducted until an endpoint is reached;

a second cleaning step that includes maintaining said deposition chamber having said multiple substrate stations at a second pressure while passing said fluorocarbon gas into said deposition chamber; and

a third cleaning step that includes maintaining said deposition chamber having said multiple substrate stations at a third pressure less than said first and second pressures while passing said fluorocarbon gas into said deposition chamber.

2. (Previously Presented) The process as recited in Claim 1, wherein said fluorocarbon gas is selected from the group consisting of:

C_3F_8; C_4F_8; and C_4F_8O.

3. (Original) The process as recited in Claim 1, wherein said endpoint is determined by monitoring optical emissions from fluorine and carbon monoxide.

4. (Original) The process as recited in Claim 1, wherein a duration of said second cleaning step is substantially less than a duration of said first cleaning step and a duration of said third cleaning step is a function of said duration of said first cleaning step.

5. (Original) The process as recited in Claim 1, wherein said second pressure is greater than said first pressure.

6. (Original) The process as recited in Claim 1, wherein said first and second cleaning step further include passing said fluorocarbon gas into said deposition chamber at substantially equal flow rates of between about 600 and about 1200 sccm, and said third cleaning step further includes passing said fluorocarbon gas into said deposition chamber at a third flow rate of between about 300 and about 1200 sccm.

7. (Original) The process as recited in Claim 1, wherein said first cleaning step is performed before said second cleaning step, and said third cleaning step is performed after said second cleaning step.

8. (Original) The process as recited in Claim 1 wherein said deposition chamber includes a controller configured to conduct a two-step cleaning process and said controller is modified to provide a three-step cleaning process controller and said process further includes implementing said three-step cleaning process controller to conduct said first, second and third cleaning steps.

Claims 9-15 (Canceled)

16. (Previously Presented) A method of manufacturing semiconductor devices comprising:

transferring a plurality of substrates into a deposition chamber having multiple substrate stations contained therein and depositing material layers on said substrates; and

cleaning said deposition chamber using an *in situ* cleaning process when deposits in said deposition chamber reaches a predefined thickness, said *in situ* cleaning process comprising:

a first cleaning step that includes maintaining said deposition chamber at a first pressure while passing a fluorocarbon gas into said deposition chamber, said first cleaning step conducted until an endpoint is reached;

a second cleaning step that includes maintaining said deposition chamber at a second pressure while passing said fluorocarbon gas into said deposition chamber; and

a third cleaning step that includes maintaining said deposition chamber at a third pressure less than said first and second pressures while passing said fluorocarbon gas into said deposition chamber.

17. (Original) The method recited in claim 16, wherein said predefined thickness is estimated from a rate of depositing said material layers on said substrates.

18. (Previously Presented) The method recited in claim 16, further includes performing a wipe-cleaning-out of said deposition chamber when a variation in thickness of said material layers exceeds a predefined limit.

19. (Original) The method recited in claim 18, wherein said predefined limit is about ± 5 percent of a target thickness.

20. (Original) The method recited in claim 18, wherein a period until said wipe-clean-out process is at least about 50 deposition hours.

21. (New) The method recited in claim 1, wherein said deposition chamber has multiple shower heads.

22. (New) The method recited in claim 21, wherein for each one of said substrate stations, one of said showerheads is located above one of said substrate stations.

23. (New) The method recited in claim 21, wherein each one of said substrate stations, a plurality of said showerheads are located above one of said substrate stations.

24. (New) The method recited in claim 1, wherein said second pressure is different than said first pressure.